HAIGAZIAN UNIVERSITY

Predictors of Health Anxiety: The role of Anxiety Sensitivity and Psychological Resilience

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A Thesis submitted to the Faculty of Social and Behavioral Sciences in partial fulfillment of the requirements for the Master of Art in Psychology – Emphasis: Clinical at Haigazian University.

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Haigazian University
July 2022

DEDICATION

I would like to dedicate this thesis to the people suffering from health anxiety and anxiety disorders post COVID-19 pandemic. Your mental health and well-being is a priority as well as finding your appropriate coping mechanism and treatment plan precisely in these precedented times we are all passing through.

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I would like to thank my family for the continuous support and encouragement they have been providing me throughout this journey and all my life.

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Abstract

The eruption of the COVID-19 in 2020 has put the entire globe into an emergency state where lockdowns were imposed, and precautionary measures were taken. As a result, the uncertainty surrounding this unexpected pandemic has caused some serious adverse effects on people's mental health.This study investigated two possible predictors of health anxiety, namely, anxiety sensitivity and psychological resilience, in a group of 78 Lebanese adults. This quantitative study followed a correlational design and the survey was administered through a questionnaire to a convenience sample. The study used three instruments, which were the Short Health Anxiety Scale developed by Salkovskis, Rimes, Warwick and Clark (2002), Anxiety Sensitivity Index developed by Reiss et al., (1986), and the Conor Davidson Resilience Scale which was developed by Kathryn Connor and Jonathan Davidson (2003).Results of this study showed that anxiety sensitivity is a strong predictor of higher levels of health anxiety, but psychological resilience failed to reach significance. As such, future research can explore the interpretation of resilience as a construct among the Lebanese community and the unique characteristics of the Lebanese population which most probably yielded the insignificant result.

Keywords: Health Anxiety, Psychological Resilience, anxiety sensitivity, COVID-19

Predictors of Health Anxiety: The Role of Anxiety Sensitivity and Psychological Resilience

A novel coronavirus type SARS-CoV-2 was identified on the 31st of December 2019 in Wuhan, China. Soon enough the virus spread across the world turning into an ongoing global pandemic referred to as COVID-19 (Zhu et al., 2ia020). Most countries affected by the COVID-19 pandemic have instituted various measures of lockdown, quarantine, and social/physical distance. These infection control techniques have had an influence on major life areas, such as personal mobility where activity is limited due to house confinement, interpersonal interactions as evident by less face-to-face engagement, and occupational/educational activities which became virtual causing disruptions in daily routines (Hou et al., 2021). These changes caused by the pandemic, along with other related stressful events, have negatively impacted people's psychological wellbeing (Ben-Ezra et al., 2020a; Goodwin et al., 2020b; Holmes et al., 2020; Ustun and Kennedy, 2009). As such, research on the impact of the pandemic on people's mental health has been classified as high priority (Holmes et al., 2020).

When subjected to psychosocial stressors such as a pandemic, people tend to behave differently. While moderate amounts of anxiety may push people to cope with health-related challenges, high levels of anxiety are expected to be harmful. It can result in disruptive misinterpretation of body sensations, as well as dysfunctional beliefs and maladaptive coping practices (Asmundson & Taylor, 2020). According to Ozdin & Bayrak Ozdin (2020), the uncertainty surrounding the pandemic has caused some serious adverse effects on people's mental health. More specifically, people's questions on the longevity of the virus, methods of treatment, the evident decrease in social relations and increase in isolation has impaired people's psychological functioning. Reports of anxiety, depression, and insomnia symptoms have

increased during the COVID-19 pandemic (Torales et al., 2020). Preliminary studies conducted during the Chinese national lockdown showed that 35% reported mild to severe COVID-19 peritraumatic distress (Qiu et al., 2020), 54% reported the mental health outcome of the pandemic as moderate to severe, 16.5% reported moderate to severe depressive symptoms, while 28.8% reported moderate to severe anxiety symptoms (Wang et al., 2020). Anxiety about one's health is a multidimensional phenomenon that includes uncomfortable emotions, physiological arousal and accompanying physical sensations, thoughts and pictures of danger, avoidance, and other behaviors. Many people encounter the phenomenon (health anxiety) on an irregular basis in their daily lives. In view of the above data and the high rates of COVID-19 infection and mortality, it is evident that individuals with higher health anxiety are more likely to suffer from adverse mental health effects such as depression, anxiety disorders, and peritraumatic distress (Taylor, 2019; Wang et al., 2020).

Health Anxiety

Health anxiety is defined as "excessive awareness of one's bodily sensations, such as those related to viral infections (e.g., fever, coughing and aching muscles), and the persistent propensity to attribute them to "a sign of a severe medical condition" (Landi et al., 2020). Health anxiety symptoms, according to cognitive behavior therapy theory, occur on a spectrum, from mild to severe, and lead to hypochondriasis and other somatic and anxiety disorders (Asmundson et al., 2010; Taylor, 2019). Some people who have a high level of health anxiety during the pandemic may overcrowd the health system by visiting doctors and hospitals on a regular basis. Others who are anxious may be hesitant to seek medical help because they are concerned that hospitals are a source of transmission (Ozdin & Bayrak Ozdin, 2020). Individuals with minimal

health anxiety, on the other hand, may be hesitant to comply with warnings about containing the pandemic and may behave in a more relaxed manner (Asmundson & Taylor, 2020).

Additionally, people who reported high health anxiety prior to the COVID-19 pandemic are especially vulnerable to negative mental health effects, as their inclination to misunderstand physical sensations (e.g., coughing) could elicit a significant fear of having contracted the virus (Taylor, 2019; Li et al., 2020; Rajkumar, 2020). According to one study that looked at the number of visits to 18 emergency departments in the United States following the H1N1 pandemic, the number of visits in the week before the pandemic hit the country was as high as the number in the week when the virus was at its peak. In addition, the number of presentations was 7% more than usual (McDonnell et al., 2012).

Psychological Resilience

Another individual difference that can play a role in facilitating or inhibiting health anxiety is psychological resilience. People's reactions to obstacles and difficulties vary greatly. The ability to bear setbacks, adapt positively, and recover from adversity is referred to as ‘resilience’ (Luthar and Cicchetti, 2001). Psychological resilience is an individual's ability to overcome numerous problems in life or cope with rising traumas (Russo et al., 2001). A growing body of research found that people with poor psychological resilience encountered difficulty coping when faced with obstacles (Van Breda, 2001). Furthermore, it has been revealed that strong psychological resilience was associated with lower levels of anxiety suggesting that individuals with anxiety disorders show lower psychological resilience (Hjemdal et al., 2011).

Psychological resilience is a concept that is highly relevant to adaption to the present COVID-19 pandemic. Resilience has been extensively studied as an outcome that demonstrates a human potential to live a regular life despite substantial life adversities (Killgore et al., 2020).

The COVID-19 pandemic has disrupted normal life for much of the world's population, including Lebanon. As a result of the accompanying social isolation and economic insecurity, there has been a considerable increase in mental health difficulties, such as loneliness, anxiety, depression, and suicidal ideations (Killgore et al., 2020).

Psychological resilience has also been regarded as a multifaceted phenomenon dynamically governed by the complex interaction of external and internal social, behavioral, cognitive, biological, and neurological elements (Kalisch et al., 2017). At least three key components comprise resilience: (1) adaptability to changing external/environmental and internal/mental demands (e.g., Luthar et al., 2000); (2) proclivity to bounce back and demonstrate positive functioning in adversity (e.g., Zautra et al., 2010); and (3) effective interpersonal interactions and quality relationships that buffer individuals from psychosocial distress (e.g., Skodol, 2010). These psychological resilience components have been utilized to showcase an individual's coping skills when faced with adversity and are linked to adaptive psychological functioning (Connor and Davidson, 2003; Hu et al., 2015). Longitudinal studies have found that survivors with high psychological resilience had reduced levels of anxiety, depression, or PTSD symptoms in the years following the Great East Japan Earthquake (Okuyama et al., 2018; Kukihara et al., 2014). Hence, this study will examine psychological resilience as a predictor of health anxiety.

Anxiety Sensitivity

There is more data pointing to the need of taking individual cognitive components into account when assessing mental health during COVID-19. Anxiety sensitivity and bodily vigilance are two other cognitive biases that play a role in the development and maintenance of health anxiety. Anxiety sensitivity is characterized by an inclination to mistake anxious arousal

(or other equivocal physical signals) as threatening (e.g., Taylor, Zvolensky, Cox, Deacon, Heimberg, Ledley, 2007). Individuals with a high anxiety sensitivity are more likely to self-monitor for unusual physical sensations (e.g., a heat flash) to notice and respond to a potential threat immediately. Indeed, previous research has shown that anxiety sensitivity and body vigilance predict anxious responses to general health status (e.g., Gerolimatos & Edelstein, 2012; Krautwurst, Gerlach, Gomille, Hiller, & Witthöff, 2014; Schmidt, Lerew, & Trakowski, 1997), as well as specific disease outbreaks (e.g., Krautwurst, Gerlach, Gomille, Hiller (e.g., Blakey et al., 2015; Wheaton et al., 2012; Xie et al., 2011). As a result, someone who feels unexplained body sensations foretell medical disaster would constantly monitor for physical changes, discover them quickly, misinterpret them as worrisome (i.e., a COVID symptom), and subsequently experience anxiety. Threatening appraisals of somatic sensations (e.g., "if I feel feverish, I might have COVID"), in particular, elicit fear and worry, as well as inclinations to engage in preventive (i.e., safety) actions such as decontamination, reassurance-seeking, or avoidance of suspected contaminants (e.g., Dorfan & Woody, 2011). Although these practices frequently alleviate health-related anxiety in the near term, the relaxation is usually ephemeral. Furthermore, such practices have been demonstrated to perpetuate and even increase long-term health anxiety (e.g., Deacon & Maack, 2008; Gangemi, Mancini, & van den Hout, 2012; Olatunji, Etzel, Tomarken, Ciesielski, & Deacon, 2011). Therefore, this study will investigate how anxiety sensitivity plays a role in predicting health anxiety.

Purpose of the Study

Along with the increasing number of episodes and fatalities linked to the novel coronavirus (COVID-19) being reported worldwide, the pandemic is having a physical and psychological impact on many people. As a result, assessing these psychological effects is

critical for maintaining public health and identifying socially harmful behavioral patterns (Taylor, 2019). The purpose of this study was to investigate the relationship between psychological resilience, anxiety sensitivity, and health anxiety in the context of the Lebanese society.

Rationale of the Study

Much has been published about the COVID-19 pandemic's mental health repercussions. The projected need for new services for posttraumatic stress disorder, suicide prevention, and prolonged sorrow has filled several paragraphs of media space, and this has been backed by substantial publications from specialists across medical disciplines (Holmes, 2020). However, the effects of health anxiety and the phenomena itself cannot be overlooked. Anxiety about one's health is a relatively new concept, and it is derived from the much more well-known condition hypochondriasis. Health anxiety has been distinguished from hypochondriasis since it is predominantly an anxious illness, whereas hypochondriasis has a considerably broader range, including substantial depression and even psychotic symptoms such as delusions (Tyrer, 2020). Pathological health anxiety is characterized by an excessive concern of contracting an illness. In general, anxiety causes psychological and somatic symptoms that are all too often mistaken as signs of medical illness (Tyrer, 2018). These are prevalent in a wide spectrum of diseases and can mimic problems in every medical specialty, which is why they were previously classified as "medically unexplained symptoms" (Tyrer, 2020). Therefore, people health anxiety who experience symptoms related to respiratory disease such as coughing, dizziness, difficulty breathing, etc. However, in light of the current situation, these symptoms could also present themselves as coronavirus symptoms. This is where COVID anxiety varies from conventional health anxiety; it is probably justifiable at the moment and hence cannot be considered unhealthy

(Tyrer, 2020). It is plausible for persons experiencing these symptoms to attribute them to coronavirus infection during a pandemic. Given the nature of the pandemic to linger for a long period when the risk of infection is still high, health anxiety surrounding COVID exacerbates (Tyrer, 2020). Every symptom, no matter how minor, is imbued with grave meaning. Sufferers with health anxiety become their own health monitors and they frequently disclose their symptoms to medical experts, friends, and family (Tyrer, 2020). Because there is some skepticism about the accuracy of tests, even a negative result for COVID-19 will not alleviate their concerns. Once established, health anxiety causes persistent vigilance, which is frequently connected with monitoring the body, repeated inquiries for reassurance, and social media surfing, followed by a vicious cycle of increasing worry, increased symptomatology, and increased misinterpretation (Tyrer, 2020). The ability to control pandemics is dependent on people following warnings. Health anxiety is one psychological element that can influence adherence to warnings. Therefore, there was an urgent need to examine the factors involved in facilitating and suppressing health anxiety in such dire times.

In addition to that, to our knowledge, this is the first study assessing psychological resilience and anxiety sensitivity as predictors of health anxiety in a Lebanese context and the context of the COVID-19 pandemic. According to Bizri et al. (2021), substance abuse is increasing in Lebanon as a way of coping with adversity.Bizri et al. (2020) states that the population is vulnerable to addiction and mental health issues. The ongoing stressors faced by citizens in Lebanon has subjected the population to a vulnerable state of anxiety, panic, and emotional instability. To promote positive psychological wellbeing across Lebanese people, the effect of these adversities should be buffed (Wright & Masten, 2015). Therefore, this called for

an examination of the psychological resilience of Lebanese people and how it predicted health anxiety in an ongoing pandemic.

Research Questions

Based on the above brief literature and rationale of the study, this thesis investigated the following research questions:

Research Question 1: Is psychological resilience a predictor of health anxiety among a sample of Lebanese individuals?

Research Question 2: Is anxiety sensitivity a predictor of health anxiety among a sample of Lebanese individuals?

The professional Significance of the Study

Given that the pandemic is ongoing and health anxiety is an ongoing phenomenon, there was an urgent need to explore this study for several reasons. Although research into the psychological predictors of anxiety in response to disease outbreaks is limited, understanding these processes may help with the treatment and prevention of health anxiety (Bish & Michie, 2010), which is associated with increased (and unnecessary) healthcare costs and a lower quality of life (e.g., missed days at work; Taylor & Asmundson, 2004). Furthermore, more research is needed in this field to examine the replicability and generalizability of past findings to new participant samples and illness situations. Psychological models that seek to explain clinically significant health anxiety can be enhanced and updated by exploring the consistency of psychological elements that may contribute to outbreak-related public distress. Clarifying the elements that lead to health anxiety in the aftermath of global pandemics may also aid doctors in identifying patients who may be susceptible to worsened health anxiety-related symptoms (e.g., a

patient with OCD who becomes increasingly distressed about contamination during an illness outbreak).

Psychological aspects are critical to the success of finding and evaluating strategies that manage the pandemic, and the investigation of health anxiety has a significant impact on the success or failure of the overarching goal (Taylor, 2019). Research on the factors that affect levels of health anxiety during a pandemic is essential to protect the mental and physical health of all individuals. There has been minimal research on the key elements related with health anxiety in the setting of virus outbreaks in Lebanon up to this point; therefore, the following research aimed to bridge that gap in the literature.

Chapter 2

Review of Literature

Studies had revealed that most countries affected by the COVID-19 pandemic have instituted various measures of lockdown, quarantine, and social/physical distance(Hou et al., 2021). These infection control techniques have had an influence on major life areas, such as personal mobility where activity is limited due to house confinement, interpersonal interactions as evident by less face-to-face engagement, and occupational/educational activities which became virtual causing disruptions in daily routines. These changes caused by the pandemic, along with other related stressful events, have negatively impacted people's psychological wellbeing(Hou et al., 2021). When subjected to psychosocial stressors such as a pandemic, people tend to behave differently. While moderate amounts of anxiety may push people to cope with health-related challenges, high levels of anxiety are expected to be harmful(Asmundson & Taylor, 2020).

According to Ozdin & Bayrak Ozdin (2020), the uncertainty surrounding the pandemic has caused some serious adverse effects on people's mental health. More specifically, people's questions on the longevity of the virus, methods of treatment, the evident decrease in social relations and increase in isolation has impaired people's psychological functioning. Reports of anxiety, depression, and insomnia symptoms have increased during the COVID-19 pandemic(Torales et al., 2020).

Anxiety about one's health is a multidimensional phenomenon that includes uncomfortable emotions, physiological arousal and accompanying physical sensations, thoughts and pictures of danger, avoidance, and other behaviors (Landi et al., 2020)

In view of the high rates of COVID-19 infection and mortality, it is evident that individuals with higher health anxiety are more likely to suffer from adverse mental health effects such as

depression, anxiety disorders, and peritraumatic distress which is the psychological distress resulting of a trauma (Taylor, 2019; Wang et al., 2020).

Health anxiety (dependent variable) is defined as "excessive awareness of one's bodily sensations, such as those related to viral infections, and the persistent propensity to attribute them to a sign of a severe medical condition (Landi et al., 2020). Health anxiety symptoms, according to cognitive behavior therapy theory, occur on a spectrum, from mild to severe, and lead to other somatic and anxiety disorders. Some people who have a high level of health anxiety during the pandemic may overcrowd the health system by visiting doctors and hospitals on a regular basis (Landi et al., 2020)

Individuals with minimal health anxiety, on the other hand, may be hesitant to comply with warnings about containing the pandemic and may behave in a more relaxed manner Additionally, people who reported high health anxiety prior to the COVID-19 pandemic are especially vulnerable to negative mental health effects, as their inclination to misunderstand physical sensations (e.g., coughing) could elicit a significant fear of having contracted the virus(Taylor, 2019; Li et al., 2020; Rajkumar, 2020).

Psychological resilience (first independent variable) is an individual's ability to overcome numerous problems in life or cope with rising traumas(Russo et al., 2001. A growing body of research found that people with poor psychological resilience encountered difficulty coping when faced with obstacles(Van Breda, 2001. Furthermore, it has been revealed that strong psychological resilience was associated with lower levels of anxiety suggesting that individuals with anxiety disorders show lower psychological resilience(Hjemdal et al., 2011).

The COVID-19 pandemic has disrupted normal life for much of the world's population. As a result of the accompanying social isolation and economic insecurity, there has been a

considerable worldwide increase in mental health difficulties, such as loneliness, anxiety, depression, and suicidal ideations (Killgore et al., 2020).

Psychological resilience has also been regarded as a multifaceted phenomenon dynamically governed by the complex interaction of external and internal social, behavioral, cognitive, biological, and neurological elements(Kalisch et al., 2017). At least three key components comprise resilience first, adaptability to changing external/environmental and internal/mental demands (Luthar et al., 2000), second proclivity to bounce back and demonstrate positive functioning in adversity (Zautra et al., 2010) and third, effective interpersonal interactions and quality relationships that buffer individuals from psychosocial distress Skodol, 2010). These psychological resilience components have been utilized to showcase an individual's coping skills when faced with adversity and are linked to adaptive psychological functioning(Connor and Davidson, 2003; Hu et al., 2015).

Moreover, there is more data pointing to the need of taking individual cognitive components into account when assessing mental health during COVID-19. Anxiety sensitivity (second independent variable) is characterized by an inclination to mistake anxious arousal (or other equivocal physical signals) as threatening Individuals with a high anxiety sensitivity are more likely to self-monitor for unusual physical sensations and respond to a potential threat immediately (Taylor, Zvolensky, Cox, Deacon, Heimberg, Ledley, 2007). For instance, someone who feels unexplained body sensations foretell medical disaster would constantly monitor for physical changes, discover them quickly, misinterpret them as worrisome and subsequently experience anxiety. Threatening appraisals of somatic sensations particularly elicit fear and worry, as well as inclinations to engage in preventive safety actions such as decontamination, reassurance-seeking, or avoidance of suspected contaminants (Dorfan & Woody, 2011).

Although these practices frequently alleviate health-related anxiety in the near term, the relaxation is usually ephemeral, yet such practices have been demonstrated to perpetuate and even increase long-term health anxiety (Deacon & Maack, 2008; Gangemi, Mancini, & van den Hout, 2012; Olatunji, Etzel, Tomarken, Ciesielski, & Deacon, 2011).

Along with the increasing number of episodes and fatalities linked to the novel coronavirus being reported worldwide, the pandemic is having a physical and psychological impact on many people. As a result, assessing these psychological effects is critical for maintaining public health and identifying socially harmful behavioral patterns(Taylor, 2019). The purpose of this study is to investigate the relationship between psychological resilience, anxiety sensitivity, and health anxiety.

Based on the above review of literature, the following hypotheses were examined in this study:

Hypothesis 1 : High psychological resiliencenegatively predicts health anxiety

Hypothesis 2: High anxiety sensitivity positively predicts health anxiety

Chapter 3

Methodology

Research Design

This study adopted a cross-sectional correlational survey design. The purpose of this study was to test a regression model that predicts health anxiety from psychological resilience and anxiety sensitivity in Lebanon.

Participants

Given that most variables tested in psychological research are correlated with each other, aiming for large effect sizes can increase the chance of type II error. Therefore, most psychological research aims for a small to medium effect size using power =0.80. Based on the desired effect size of the study, small to medium effect, and the presence of two predictors, 78 participants were the required minimum to reach statistical power as computed on G*power for medium effect, and 725 participants for a small effect. For feasibility of the study and due to time constraints, this study opted for a minimum of 78 participants required to perform parametric tests. The effect sizes (0.02, 0.13), power (0.80), and significant (0.05) were determined based on Andy Field's statistical recommendations (Field, 2013). This study sampled a total of 100 participants from the general population. Convenience sampling, which is recruiting participants that are conveniently located to the researcher in terms of location or feasibility of reach, was used in this studyas well as snowballing, in which the enrolled research participants helped recruit future subjects for the study by sharing the survey. The survey was administered in English.

Ethical Considerations

The present study protocol received ethical approval from the SBS Ethics Committee at Haigazian University. Participation was free, voluntary, and required written consent. No incentive or reward was provided for participation. Participants were informed of the study objectives prior to the start of the questionnaire. Debriefing was employed at the end of the study to reiterate the purpose of the study as well as any foreseeable risks with regards to resurfacing of any anxiety. Surveys were anonymous, and a contact email was provided at the beginning of the study for inquiries. Participants were made clearly aware of their right to withdraw from the questionnaire at any time. Finally, participant information was confidential.

Materials

A questionnaire in hard copy was employed to gather information for this study from the general population. It contained a participant information letter outlining the purpose of this study and a letter of consent. It also consisted of the tools used to measure the variables in this study, specifically, The Connor-Davidson Resilience Scale-25 (CDRISC), Anxiety Sensitivity Index-3 (ASI-3), Health Anxiety Scale, a question about COVID-19 contraction, and a demographic information form.

Demographics.

The demographics questionnaire obtained information on age, gender, marital status, level of education, work status, and nationality (See Appendix F). This information was for sample descriptive purposes. Participants were also asked whether they contracted COVID or not.

Connor-Davidson Resilience Scale-25 (CD-RISC).

The Connor-Davidson Resilience Scale-25 (CD-RISC) was utilized to examine the cognitive components of resilience such as "ability to adjust to change" and "tendency to bounce back after

illness or suffering" (Vaishnavi et al., 2007) and behavioral components of resilience such as "have to act on a hunch"(Vaishnavi et al., 2007) (See Appendix D). If a situation hasn't happened to them, then they are to contemplate how they would react. Responses are indicated on a five point Likert Type Scale (0= not at all to 4= true nearly all the time). The range of the total scale is 0-100 with higher total scores indicating greater resilience. A sum resilience score was calculated for the analysis (Hosseini & Besharat, 2010; Gucciardi, Jackson, Coulter, & Mallett, 2011). The CD-RISC scale has determined good reliability (α= .88) and test-retest reliability (.87) (Connor & Davidson, 2003; Gucciardi et al., 2011). time).

Anxiety Sensitivity Index-3 (ASI-3; Taylor et al., 2007).

The ASI-3 is an 18-item measure of beliefs regarding the dangerousness of anxiety along physical (e.g., "it scares me when my heart beats rapidly"), cognitive (e.g., "it scares me when I am unable to keep my mind on a task"), and social (e.g., "it scares me when I blush in front of other people") domains (See Appendix E). Participants rate their agreement with these statements on a 0 = very little to 4 = very much scale. Possible subscale scores range from 0 to 24, and potential total scores range from 0 to 72, with lower scores indicating lower anxiety sensitivity. The ASI-3 has demonstrated a three-factor structure with good reliability and criterion-related validity in previous research (Taylor et al., 2007). The ASI-3 physical, cognitive, and social concern subscales showed good to excellent internal consistency in the current sample (αs = 0.87, 0.90, and 0.80, respectively).

Short Health Anxiety Inventory.

It is an 18-item scale. Participants' preoccupation with, or fear of, having a serious illness was measured with a modified version of scale that was originally developed by Salkovskis et al. (2002) (α = .77) (See Appendix C). With these items, participants were asked to indicate whether

the following statements described their personal feelings: (a) I am always afraid that I have a serious illness, (b) I usually feel at high risk for developing a serious illness, (c) If I have a body sensation or change, I must know what it means, and (d) I am aware of aches/pains in my body all the time. Answers were provided along a 7-point scale ranging from 1 "strongly disagree" to 7 "strongly agree." Scores of all four items were summed and averaged. Higher scores were indicative of increased levels of health anxiety.

Procedure

Pilot Study. A Pilot study was conducted on a sample of students at HU to ensure that all items were understood, and no problems were encountered. Approximately 10 students were recruited from the graduate and undergraduate programs using convenience sampling. Participation was voluntarily and anonymous.

Actual Study. Individuals from the general population were contacted using convenience sampling through word of mouth, public places, and WhatsApp. Participants were informed of the study, its purpose, and their right to withdraw. After signing the consent form, the participants were given an estimation of the time needed to complete the questionnaire which was 15-20 minutes on average. Counterbalancing was used to control for order and carryover effect. The final section of the survey showcased the demographic sheet. The surveys in this cross-sectional study remained confidential to ensure privacy of participant information. Data analysis was conducted on SPSS through a multiple linear regression to test the predictive value of anxiety sensitivity and psychological resilience on health anxiety.

Chapter 4

Results

Preliminary analysis

The purpose of this quantitative study was to determine the role of anxiety sensitivity and psychological resilience as predictors of health anxiety in a Lebanese sample. A total of 100 participants took part and completed this study. No missing values or empty questions were found; therefore, the analysis was completed on the entire data (100 participants). A preliminary analysis was conducted to examine the reliability of scales, assumptions of normality, univariate and multivariate outliers, sample demographics, and descriptive scale statistics.

Reliability Analysis

Internal reliability of the Health Anxiety Inventory (HAI), Anxiety Sensitivity Scale (ASI-3), and Connor Davidson Resilience Scale (CD-RISC) were investigated using Cronbach's Alpha. Results indicated that all scales were reliable. The CD-RISC had excellent reliability with an alpha for the total scale equal to α= .915 while the ASI-3 had a very good reliability with an alpha for the total scale equal to α = .878. The analysis also revealed an acceptable reliability score for the HAI with an alpha for the total scale equal to α = .762. Examination of individual items for the HAI scale suggested that elimination of the items 15, 16, 17, 18 (reversed) would increase the reliability of the scale to α = .802, α = .779, α = .790, and α = .774 respectively (see Table 1).

Table 1

Internal Reliability of Scales: Cronbach's Alpha

	Current Cronbach's Alpha	Previous Cronbach's Alpha	N of items
HAI	.762	.81	18
ASI-3	.878	.79	18
CD-RISC	.915	.88	25

Outliers Analysis

Univariate and multivariate analyses were conducted. Univariate outliers were identified by converting all non-categorical data into z-scores. Any z-score that exceeds ±3.29 was referred to as a univariate outlier. Accordingly, only one case was identified as an outlier (case #61) on the Health Anxiety Inventory (HAI) with a z-score = 3.81. Cook's distance was inspected to check if case #61 is influential. A score > 1 indicates that the outlier identified is an influential case. Results showed that cook's distance ranged between 0.00 to 0.497 (<1) indicating that there are no influential outliers.

Multivariate outliers were determined using Mahalanobis distance. A criterion > 18.467 was used as a cut-off to indicate a multivariate outlier. Results revealed that no case showed a Mahalanobis distance greater than 18.467. The probability calculation of Chi square did not

show any significant results. Therefore, no multivariate outliers were identified, and all responses were kept as part of the inferential analysis.

Normality

The normality of the variables was tested by examining the K-S normality test for each scale. Results indicated non-significant results for the Anxiety Sensitivity Index (ASI), D (100) = 0.062, $p > .05$, and the CD-RISC, D (100) = 0.067, $p > .05$ suggesting that the normality of these scales were met. However, the Health Anxiety Inventory (HAI) did not meet the assumption of normality such that D (100) = 0.116, $p < .001$. After examination of the histogram showing the normal distribution of the HAI, it is revealed that the scores on this variable are skewed to the left. However, given that the sample size is large enough for the main analysis, no further action was taken as per the central limit theorem.

Sample Descriptive

The final sample size was 100 participants, and included 68 females (68%), and 32 males (32%). The age of the participants ranged from 19 to 70 years old. The majority of participants were Lebanese (*N*= 94, 94%), followed by Jordanian (*N*=3, 3%), Palestinians (*N*=1, 1%), Egyptians (*N*=1, 1%), and Canadian (*N*=1, 1%). 46% of the sample reported that they are married, 35% reported that they are single, 16% indicated that they are in a relationship, 2% were divorced, and 1% indicated that they are widowed. As for the level of education, 49% revealed that they have a bachelor's degree, 40% held a master's degree, 7% held a doctorate degree, and only 4% did not have a university degree (1% Brevet and 3% Baccalaureate). The sample statistics also showed that 49% were employed full-time, 26% were unemployed, 17%

were self-employed, 7% indicated that they worked part-time, and only one participant reported their employment status as “other”. Finally, on the question screening for covid-19 contraction, 67% of the sample indicated that they have while 33% of the sample indicated that they didn’t. The full demographic information of the sample is indicated in the table below.

Table 2

Frequency and Percentages of Participants’ Demographic Information

	Level	N	%
Gender	Male	68	68
	Female	32	32
Nationality	Lebanese	94	94
	Jordanian	3	3
	Other	3	3
Marital Status	Married	46	46
	Single	35	35
	Divorced		
	In a Relationship		
	Widowed		
	Employed		1
	Unemployed		1
	Other	1	1

Scale Descriptive

The mean of the items of each scale were computed as well as the average of all scores. For HAI, the overall mean was (*M*=41.03, *SD*=0.601) which was lower than the midpoint. Scores of the resilience scale had a mean of *M*=89.8, *SD*=1.42, which indicated that the sample scored much higher than the midpoint showing that the sample is highly resilient. For the anxiety sensitivity scale, the mean was *M*=39.38, *SD*=1.17, which was lower than the midpoint, indicating that participants' anxiety sensitivity was lower than average. The descriptive Table below shows the rest of the results (Table 3)

Table 3

Means and SDs of the Scales

Scales	M	SD
Health Anxiety Inventory	41.03	.60
CD-RISC	89.8	1.42
Anxiety Sensitivity	39.38	1.17

Main Analysis

This study hypothesized that psychological resilience and anxiety sensitivity are predictors of health anxiety. Therefore, a multiple regression in which health anxiety was entered

as the outcome and anxiety sensitivity, and psychological resilience were entered as the predictors was performed. Before doing so, the assumptions of the regression analysis were examined. First, multicollinearity which refers to the large correlations between variables that can affect the regression analysis was examined. Correlations above .80 are usually classified as problematic. Our examination of the zero-order correlation matrix suggested that none of the scales showed a large correlation. In fact, the largest correlation was r=.591 (p<.05) between health anxiety and anxiety sensitivity which is justified as both constructs measure anxiety. Regardless, this was still below the .80 mark and the usual classification of large correlations (.70). Furthermore, the coefficient analysis showed a VIF below 10 for all predictors suggesting that there were no issues with multicollinearity and the assumption was met. Second, the independence of errors was examined using the Durbin-Watson statistic to see if errors of the independent variables were independent of each other. The criterion is ($1<x<2$). In this study, the Durbin-Watson value was 2.21 which only bordered at the higher end of the criteria. Therefore, we conclude that the assumption of independence of errors is met. Third, the residuals in this study were normally distributed as seen by the bell-shaped histogram below whose bars center around zero (Figure 1). Finally, the homoscedasticity of regression slope was examined using the Z-RESID vs Z-PRED scatterplot. The scatterplot obtained (Figure 2) show random scattering of residuals with no specific shape or funneling; therefore, this assumption has also been met.

Figure 1

Histogram Distribution of the Standardized Residuals

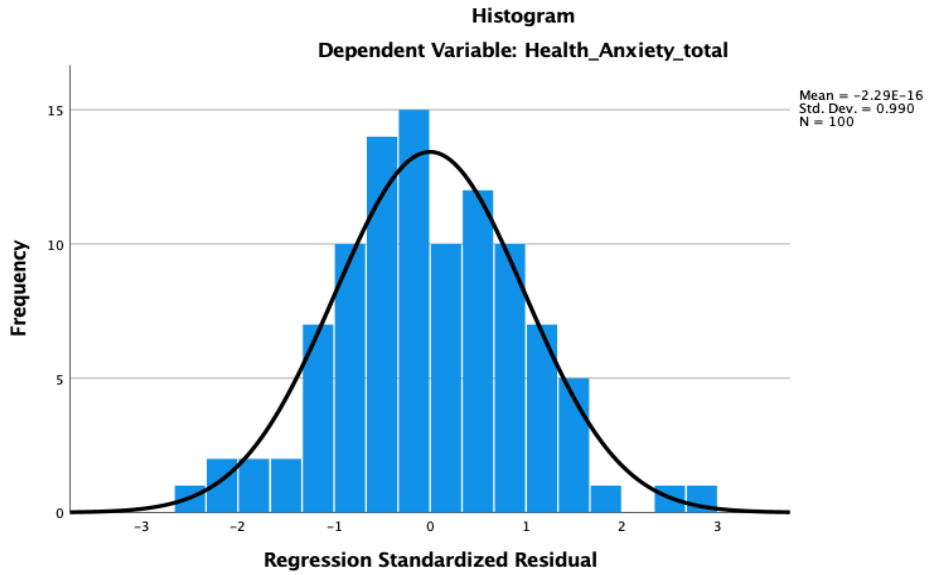
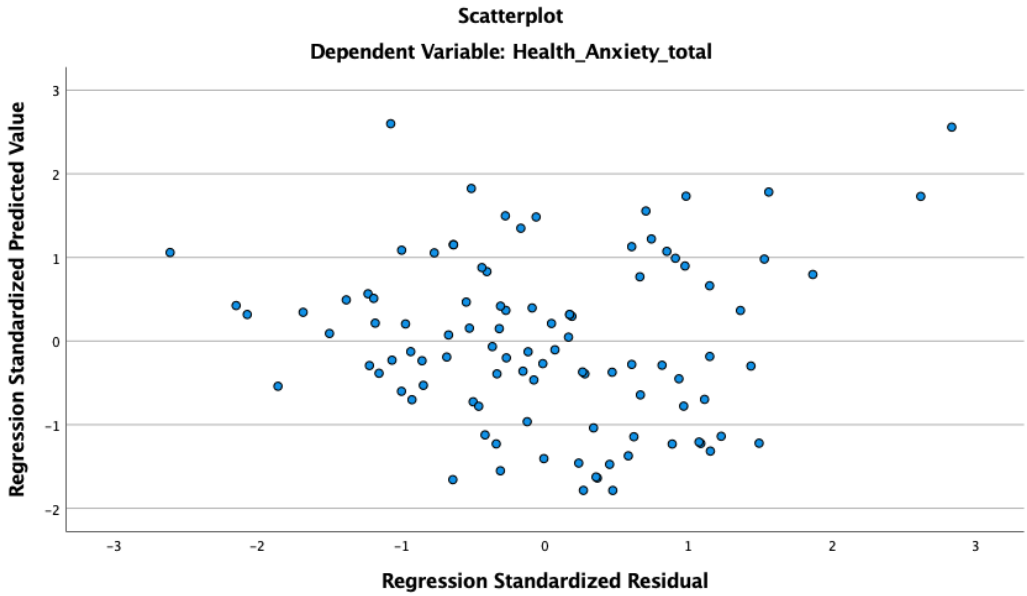


Figure 2

Scatterplot of the Residuals



Regression

The study investigated the following hypotheses:

H1: High psychological resiliencenegatively predicts health anxiety

H2: High anxiety sensitivity positively predicts health anxiety

The model that included health anxiety as an outcome and anxiety sensitivity, and psychological resilience as predictors was significant, $F(2,97)=25.980$, $p<.01$. The R squared value was $R^2=.591$. This indicated that the model (anxiety sensitivity and psychological resilience) accounted for 59.1% variance in health anxiety which was slightly more than half. Furthermore, the adjusted R square had a value of $R^2 =.335$, which indicated that only 33.5% of the variance is explained by the predictors in this model.

Assessment of the beta coefficients in our model showed that anxiety sensitivity is the strongest significant positive predictor of health anxiety, $\beta=.59$, $p<.05$. In contrast, psychological resilience was not a significant predictor of health anxiety, $\beta=.01$, $p=.89$ (See Table4).

Table 4

Summary for Multiple regression Analysis (N=100)

Variable	B	SE (B)	B	*t*	Sig. *(p)*
Constant	28.661	4.110		6.974	<.001
Resilience	.005	.036	.012	.136	.892
Anxiety Sensitivity	.303	.044	.594	6.940	<.001

Note:

Adjusted $R^2 = 0.335$

These findings indicated that those who reported higher levels of anxiety sensitivity also showed higher levels of health anxiety. However, higher levels of psychological resilience did not reflect health anxiety scores. Therefore, only one of the hypotheses was supported which stated that high levels of anxiety sensitivity positively predicted higher levels of health anxiety while the other one was rejected.

Chapter 5

Discussion

The aim of this study was to examine the role of anxiety sensitivity and psychological resilience in predicting health anxiety in a Lebanese sample. Three scales were used: Anxiety Sensitivity Index-3 (ASI-3), Connor Davidson Resilience Scale (CD-RISC 25), and the Health Anxiety Inventory (HAI). Among the two predictors, only anxiety sensitivity significantly predicted health anxiety scores in the given sample. More specifically, participants who had higher anxiety sensitivity scores also had higher health anxiety scores. However, unlike the popular literature, higher psychological resilience did not predict lower health anxiety scores. Implications are discussed below.

Anxiety Sensitivity and Health Anxiety

The main result of this study was that health anxiety was predicted by anxiety sensitivity. In other words, individuals with high fear-based arousal regarding their body sensations also demonstrated higher anxiety towards their health as supported by our data analysis and in line with our hypothesis (H2). Our findings were consistent with the abundant literature on the relationship between anxiety sensitivity and health anxiety. In one study conducted by Gerolimatos & Edelstein (2012) assessing the predictors of health anxiety among older and younger adults, they found that anxiety sensitivity was a strong predictor of health anxiety. More specifically, they found that anxiety sensitivity predicted negative consequences but only for older adults. They also reported that health anxiety scores were higher among younger adults. These age-related findings are interesting to our study given that the sample at hand consisted of

younger and older adults. It might be interesting to explore in future research how age played a role in shaping the results of this study and many others. Anxiety sensitivity has also been found to uniquely predict physical symptoms of health anxiety and specifically those related to body vigilance (Gerolimatos & Edelstein, 2012). More often body vigilance is studied together with anxiety sensitivity.

Reports of anxiety sensitivity has been associated with many cognitive and emotional factors in the literature on anxiety sensitivity and health anxiety. For example, in a study conducted by Wheaton, Berman, & Abramowitz (2010) on the role of anxiety sensitivity and experiential avoidance in predicting health anxiety, the authors found that high levels of health anxiety were predicted by higher levels of anxiety sensitivity and experiential avoidance. Moreover, anxiety sensitivity and experiential avoidance were associated with another such that experiential avoidance is characterize by a suppression and avoidance of emotions that are feared bodily sensations and responses of anxiety (anxiety sensitivity) (Wheaton, Berman, & Abramowitz, 2010). Furthermore, the cognitive mechanism of anxiety sensitivity has sparked interest in metacognitive beliefs that are directly associated with health anxiety. For example, in a study conducted by Melli et al. (2015), they found that metacognitive beliefs, specifically those related to uncontrollability and interference of illness thoughts, played a predictive role, and had a stronger association with health anxiety than other beliefs. In addition to that, those metacognitive beliefs moderated the relationship between anxiety sensitivity and health anxiety. This calls for further examination to the beliefs and cognitions associated with anxiety sensitivity and its predictive relationship with health anxiety.

Psychological Resilience and Health Anxiety

This study also hypothesized that higher levels of psychological resilience negatively predict health anxiety. This hypothesis was not supported in our sample. Many studies on psychological resilience have considered it a protective factor against many illnesses, anxiety, depression, and health anxiety (Song et al., 2021). More specifically, studies on psychological resilience and health anxiety in light of the COVID-19 pandemic were of growing interest to the public mental health literature. For example, a study conducted by Ran et al. (2020) on the relationship between psychological resilience, depression, and anxiety in response to the COVID-19 pandemic showed significant associations between psychological resilience and anxiety using the CD-RISC scale. In contrary to this study by Ran et al. (2020), psychological resilience was not found to be a predictor of health anxiety in our study. An initial interpretation of this result could be related to the implicit role of cultural sensitivity regarding the meaning of resilience in our Lebanese sample. More specifically, the life challenges that the western culture considers as being resilient to such as “being not easily discouraged by failure”, “having pride in your achievements” and “working to attain your goals”,based on the CD-RISC scale, were certainly different than the day-to-day adversities experienced by Lebanese such as having access to their basic needs of food, safe water and electricity.

Another study conducted by Hou et al. (2020) showed that resilience components such as ability to bounce back and regular primary routine were associated with lower levels of worry and health anxiety. However, in our study we studied psychological resilience as a whole construct which could serve as a preliminary explanation as to why it did not reach significance in our study. Instead, specific resilience components could have been better predictors of health

anxiety as it would have given us the chance to determine which component is associated with health anxiety specifically and which one is not (Hou et al., 2020).

In conclusion, our study aimed at examining the predictors of health anxiety precisely the role of anxiety sensitivity and psychological resilience. The model was based on theoretical framework and it yielded some significant and non-significant results when applied in the Lebanese context. The results revealed that anxiety sensitivity was a strong predictor of health anxiety incisively high levels of anxiety sensitivity positively predicted health anxiety. Yet, an unexpected result emerged that higher levels of resilience were not associated with lower levels of health anxiety.

A cultural and situational factor might have contributed to the insignificant result of our multiple linear regression model. Lebanon's economic and financial crises have been increasing direly specifically post COVID-19 pandemic lockdowns, hyperinflation of the dollars rates, and the escalating political situation (Abouzeid et al., 2021). For instance, poverty rates had increased from 29% in 2019 to 67% in 2021 (Abouzeid et al.,2021). Additionally, unemployment rates in Lebanon had increased drastically reaching an alarming number of 52% (Abouzeid et al., 2021). Having said that, the understanding and interpretation of the resilience concept is different regarding the Lebanese population where they have to deal with continuous day-to-day adversities to be able to afford their basic needs of food, water and electricity. Unfortunately, their health and accessing the health systems is now considered a luxury where the majority of the population's main concern is trying to survive the day by finding access to their basic needs.

Furthermore, statistically speaking, after interpreting the results of this study, it is crucial to shed the light on the effect of choosing two extremely opposing independent variables which are the psychological resilience (protective) factor and the anxiety sensitivity (triggering factor). Thus, a sample population scoring high on psychological resilience will by default score low on anxiety sensitivity. Having said that, and in order to ameliorate our results, this study can be repeated with a twist regarding its independent variables, where the psychological resilience variable and the anxiety sensitivity variable can be tested solely in a linear regression to investigate the predictive value of anxiety sensitivity alone on health anxiety and the predictive value of psychological resilience alone on health anxiety.

Clinical Implications

The current study had clinical implications. As previously discussed, threateningappraisals of somatic sensations,such as,“I feel feverish, I might have COVID", preciselyelicit fear and worry, as well as inclinations to engage in preventive safety actions such as decontamination, reassurance-seeking, or avoidance of suspected contaminants (Dorfan & Woody, 2011). Although these practices frequently alleviate health-related anxiety on the short run, the relaxation is usually temporary and increase health anxiety on the long run.

Since anxiety sensitivity was found to be a predictor of health anxiety as the main results of the current study revealed, clinicians can adjust their treatment plans and focus primarily, while conceptualizing the case at hand, on teaching their patients how to obtain healthy

coping mechanisms in lowering their anxiety sensitivity index, in other words their fight or flight reaction (agitation arousal).

Furthermore, these findings are consistent with cognitive-behavioral models for understanding illness anxiety, which center on the amplification of symptom meaning or catastrophic misinterpretations of symptoms as the factors driving symptom disability and healthcareutilization (Otto et al., 2016). Having said that, these treatment goals would help patients attain realistic and healthy cognitive restructuring ways to control their anxiety provoking triggers, understand the various physical symptoms of anxiety that don't necessarily have any health risk indication that requires panicking and acquiring doctors' consultation, and lastly differentiating between symptoms of normal anxiety and a serious health condition through educating them about the time interval of these symptoms were symptoms of anxiety arousal should alleviate partially around 30 mins of being triggered yet the latter will last and the pain will increase gradually.

Limitations

This study brought some important contributions, but it also had several limitations. First, the study was a cross-sectional study and used self-report questionnaire which might have created some bias in the data. Second, this study examined anxiety sensitivity as the only cognitive factor predicting health anxiety which ignored other associations with cognitive and emotional factors related to health anxiety such metacognitive beliefs and experiential avoidance. Third, this study examined the predictive value of the total sum of the psychological resilience construct which did not reach significance. Other studies have shown more promising results with the examination of components of psychological resilience as discussed in the previous

section. Therefore, this pose another limitation on this study. Lastly, psychological resilience has been mostly examined in western countries or countries that do not face continuous adversaries such as Lebanon. The context of Lebanon as a highly resilient one might bring about different results than those found in the literature. In other words, the concept and construct of resilience according the Lebanese people is different than other western countries, for most of the Lebanese families have been struggling to access basic needs including food and safe water, add to that electricity and fuel supply as the economic crisis increases accompanied by hyperinflation.

Future Research

The limitations of our study can be improved in future research. First, a narrower sample could be specified. Clinical samples could be employed to examine our hypotheses in a clinical sample vs non-clinical one. Second, future research can examine components of psychological resilience as predictors of health anxiety rather than the total sum of the scale. This would allow the researchers to indicate which specific components predict health anxiety in their sample and which do not. Third, a model examining several cognitive and emotional factors that are associated with anxiety sensitivity and health anxiety can be used to give a more holistic investigation of the factors that predict health anxiety such as metacognitive beliefs. Moreover, given that facet of health anxiety such as body vigilance correlate differently with anxiety sensitivity and psychological resilience, it is important for future research to explore the facets as outcomes of our model for a more precise and detailed analysis. Lastly, future research can

examine the factors that hinder psychological resilience in a country that has been known to display high levels of resilience despite the continuous adversaries such as Lebanon.

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Appendix A

Participant Information Letter

Dear Ms./Mr.

I am Diana Hachicho, a student at Haigazian University from the Faculty of Social and Behavioral Sciences. I am currently carrying out a research study titled "Predictors of Health Anxiety: The Role of Psychological Resilience and Anxiety Sensitivity" advised by Dr. Hanine Hout.

You are being asked to take part in this study since we are aiming to investigate the relationship between psychological resilience, anxiety sensitivity, and health anxiety among adults in Lebanon.

Kindly read the below information to decide whether you would like to participate in this research study.

Purpose of the Research Project

This research study aims at investigating the relationship between psychological resilience, anxiety sensitivity, and health anxiety and it is the first study assessing psychological resilience and anxiety sensitivity as predictors of health anxiety in the light of COVID-19 pandemic. This study would add to the field of research concerned with health-related anxiety. Although research into the psychological predictors of anxiety in response to disease outbreaks is limited,

understanding these processes may help with the treatment and prevention of health anxiety healthcare costs and a lower quality of life. It will also contribute towards the partial fulfillment of my academic study requirements at Haigazian University.

What will I be asked to do?

- If you choose to participate in this research study, you will be asked to fill in a questionnaire. Your participation will involve completing a survey that entails statements that you will have to rate based on agreement, and a demographic form for approximately (20) minutes. Participation in this project is voluntary. You are free to withdraw anytime without having to give any reason for your withdrawal.

What are my rights?

- Participation in this study is completely voluntary, anonymous and confidential. Your name or any other identifying information will not be asked
- Data you provide along with data from all participants in the present research will be stored in aggregate in a password protected folder. The data will be analysed and reported in aggregate. Only the principle investigators of this study will have access to the compiled data which will be stored for a period of 10 years post data. During this time, you have the right to inspect the data.
- You have the right to withdraw your consent or discontinue participation at any time for any reason. Your decision to refuse participation or withdraw will not involve any penalty or loss of benefits to which you are entitled. Discontinuing participation in no way affects your relationship with Haigazian University.
- This research study has been reviewed and has received clearance from the Haigazian University Ethics committee (Sbs.Ethics@haigazian.edu.lb). If you have any further concerns about your rights as a research participant, please, do not hesitate to contact the Ethics Committee.

What are the risks and benefits of participation?

- Participation in this study does not involve any physical risk or emotional risk to you beyond the risks of daily life.
- You will receive no direct benefits from participating in this research; however your participation does help researchers better understand the relationship between the variables of interest (psychological resilience, anxiety sensitivity and health anxiety).

Contact information

If you have any questions or concerns about the research you may contact:

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Appendix B

Participant Consent Form

Please read the following statements:

- I have volunteered to participate in this research project conducted for purposes of study. My participation is voluntary and does not involve payment of any kind.

- I agree to participate in this research project conducted for purposes of study. My decision is voluntary and does not involve payment of any kind.

- I know that I can choose to withdraw from participation any time without any penalties or consequences whatsoever. I also hold the right to decline to respond to any question(s) that I may feel uncomfortable with.

- My participation involves an answering a questionnaire approximately (20) minutes.

- I have been assured that the researcher will maintain my identity confidential.

- I have been assured that the information from this survey will be used for the purpose of academic study only.

- I have received the assurance that this research study has been duly reviewed and approved by the Haigazian University ethics committee.
- I agree that the data gathered be kept in a secure location under the care of the study investigators for a period of 10 years.
- I have been assured that I can access my data (if identified) at any time.
- I have read, listened and fully understand the explanation given to me. All my questions have been satisfactorily answered.
- I, therefore, choose to voluntarily participate in this research study.

After reading the above statements, are you willing to participate in this study?

- o Yes
- o No

Appendix C

Short Health Anxiety Inventory

Please respond to the following items using the statement that best reflects your own beliefs.

1.
   - o I do not worry about my health.
   - o I occasionally worry about my health.
   - o I spend much of my time worrying about my health.
   - o I spend most of my time worrying about my health.

2.
   - o I notice aches/pains less than most other people (of my age).
   - o I notice aches/pains as much as most other people (of my age).
   - o I notice aches/pains more than most other people (of my age).
   - o I am aware of aches/pains in my body all the time.

3.
   - o As a rule I am not aware of bodily sensations or changes.

- Sometimes I am aware of bodily sensations or changes.
- I am often aware of bodily sensations or changes.
- I am constantly aware of bodily sensations or changes.

4.
- resisting thoughts of illness is never a problem.
- most of the time I can resist thoughts of illness.
- I try to resist thoughts of illness but am often unable to do so.
- thoughts of illness are so strong that I no longer even try to resist them.

5.
- as a rule I am not afraid that I have a serious illness.
- I am sometimes afraid that I have a serious illness.
- I am often afraid that I have a serious illness.
- I am always afraid that I have a serious illness.

6.
- I do not have images (mental pictures) of myself being ill.
- I occasionally have images of myself being ill.
- I frequently have images of myself being ill.
- I constantly have images of myself being ill.

7.
- I do not have any difficulty taking my mind off thoughts about my health.
- I sometimes have difficulty taking my mind off thoughts about my health.
- I often have difficulty in taking my mind off thoughts about my health.
- Nothing can take my mind off thoughts about my health.

8.
- I am lastingly relieved if my doctor tells me there is nothing wrong.
- I am initially relieved, but the worries sometimes return later.

- I am initially relieved, but the worries always return later.
- I am not relieved if my doctor tells me there is nothing wrong.

9.
- if I hear about an illness, I never think I have it myself.
- if I hear about an illness, I sometimes think I have it myself.
- if I hear about an illness, I often think I have it myself.
- if I hear about an illness, I always think I have it myself.

10.
- if I have a bodily sensation or change, I rarely wonder what it means.
- if I have a bodily sensation or change, I often wonder what it means.
- if I have a bodily sensation or change, I always wonder what it means.
- if I have a bodily sensation or change, I must know what it means.

11.
- I usually feel at very low risk for developing a serious illness.
- I usually feel at fairly low risk for developing a serious illness.
- I usually feel at moderate risk for developing a serious illness.
- I usually feel at high risk for developing a serious illness.

12.
- I never think I have a serious illness.
- I sometimes think I have a serious illness.
- I often think I have a serious illness.
- I usually think that I am seriously ill.

13.
- if I notice an unexplained bodily sensation, I don't find it difficult to think about other things.

- if I notice an unexplained bodily sensation, I sometimes find it difficult to think about other things.
- if I notice an unexplained bodily sensation, I often find it difficult to think about other things.
- if I notice an unexplained bodily sensation, I always find it difficult to think about other things.

14.

- my family/friends would say I do not worry enough about my health.
- my family/friends would say I have a normal attitude to my health.
- my family/friends would say I worry too much about my health.
- my family/friends would say I am a hypochondriac.

15.

- if I had a serious illness, I would still be able to enjoy things in my life quite a lot.
- if I had a serious illness, I would still be able to enjoy things in my life a little.
- if I had a serious illness, I would be almost completely unable to enjoy things in my life.
- if I had a serious illness, I would be completely unable to enjoy life at all.

16.

- if I developed a serious illness there is a good chance that modern medicine would be able to cure me.
- if I developed a serious illness there is a moderate chance that modern medicine would be able to cure me.
- if I developed a serious illness there is a very small chance that modern medicine would be able to cure me
- if I developed a serious illness there is no chance that modern medicine would be able to cure me.

17.

- a serious illness would ruin some aspects of my life.
- a serious illness would ruin many aspects of my life.
- a serious illness would ruin almost every aspect of my life.
- a serious illness would ruin every aspect of my life.

18.

- if I had a serious illness, I would not feel that I had lost my dignity.
- if I had a serious illness, I would feel that I had lost a little of my dignity.
- if I had a serious illness, I would feel that I had lost quite a lot of my dignity.
- if I had a serious illness, I would feel that I had totally lost my dignity.

Appendix D

Connor Davidson Resilience Scale CD-RISC

Please respond to the following items using the number that best reflects your own beliefs.

19. I am able to adapt when changes occur.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

20**.** I have one close and secure relationship.

- Not true at all
- Rarely true
- Sometimes true

- Often true
- True nearly all the time

21. Sometimes fate or God helps me.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

22. I can deal with whatever comes my way.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

23. Past successes give me confidence.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

24. I try to see the humorous side of things when I am faced with problems.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

25. Having to cope with stress can ma me stronger.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

26. I tend to bounce back after illness, injury or other hardships.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

27. I believe most things happen for a reason.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

28. I make my best effort, no matter what.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

29. I believe I can achieve my goals, even if there are obstacles.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

30. Even when hopeless, I do not give up.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

31. In times of stress, I know where to find help.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

32. Under pressure, I stay focused and think clearly.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

33. I prefer to take the lead in problem-solving.

- Not true at all
- Rarely true

- Sometimes true
- Often true
- True nearly all the time

34. I am not easily discouraged by failure.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

35. I think of myself as a strong person when dealing with life's challenges and difficulties.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

36. I make unpopular or difficult decisions.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

37. I am able to handle unpleasant or painful feelings like sadness, fear, and anger.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

38. I have to act on a hunch (feeling, intuition).

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

39. I have a strong sense of purpose in life.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

40. I feel like I am in control.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

41. I like challenges.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

42. I work to attain goals.

- Not true at all
- Rarely true

- Sometimes true
- Often true
- True nearly all the time

43. I take pride in my achievements.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

Appendix E

Anxiety Sensitivity Scale

Please rate each item by selecting one of five phrases.

44. When I feel pain in my chest, I worry that I'm going to have a heart attack.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

45. When my chest feels tight, I get scared that I won't be able to breathe properly.

- Not true at all
- Rarely true

- Sometimes true
- Often true
- True nearly all the time

46. When I notice my heart skipping a beat, I worry that there is something seriously wrong with me.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

47. When my throat feels tight, I worry that I could choke to death.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

48. It scares me when my heart beats rapidly.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

49. When my stomach is upset, I worry that I might be seriously ill.

- Not true at all
- Rarely true
- Sometimes true
- Often true

- True nearly all the time

50. When I cannot keep my mind on a task, I worry that I might be going crazy.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

51. It scares me when I am unable to keep my mind on a task.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

52. When my thoughts seem to speedup, I worry that I might be going crazy.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

53. When I have trouble thinking clearly, I worry that there is something wrong with me.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

54. When I feel “spacey” or spaced out, I worry that I may be mentally ill.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

55. When my mind goes blank, I worry there is something terribly wrong with me.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

56. When I begin to sweat in a social situation, I fear people will think negatively of me.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

57. When I tremble in the presence of others, I fear what people might think of me.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

58. I worry that other people will notice my anxiety.

- Not true at all
- Rarely true

- Sometimes true
- Often true
- True nearly all the time

59. It scares me when I blush in front of people.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

60. It is important for me not to appear nervous.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

61. I think it would be horrible for me to faint in public.

- Not true at all
- Rarely true
- Sometimes true
- Often true
- True nearly all the time

Appendix F

Demographics Questionnaire

62. Gender:

63. Age:

64. Nationality:

65. Marital Status:
    - Single
    - In a relationship
    - Married
    - Divorced

- Separated
- Widowed

66. Level of Education:
    - Brevet
    - Baccalaureate (High School Degree)
    - Bachelor's degree
    - Master's Degree
    - Doctorate Degree

67. Employment Status:
    - Unemployed
    - Part-time
    - Full-time
    - Self-employed
    - Other

68. Have you contracted Covid-19 virus before?
    - Yes
    - No